

## **REMARKS/ARGUMENTS**

### ***Status of the claims***

Claims 1-31 remain pending in the application. Claims 32-52 are withdrawn. Claims 1, 9, 10, 19, 21 and 30 have been amended to more particularly point out the claimed invention. Support for these amendments can be found through the specification, for example, pages 13, line 17 and page 23. Applicants assert that that no new matter has been introduced by the present amendments and entry of the same is respectfully requested.

### ***Rejection under 35 U.S.C. § 112, first paragraph***

Claims 1-31 are rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the enablement requirement. Applicants respectfully disagree with the Examiner.

The Examiner alleges that the calculation of  $p$  value and the theory and practice of Wilcoxon's rank test is not well known in the art and not factually supported in the specification. Applicants respectfully disagree. It is well known to one of ordinary skill in statistics that  $p$ -value represents a probability value. The probability value ( $p$  value) of a statistical hypothesis test is the probability of getting a value of the test statistic as extreme as or more extreme than that observed by chance alone, if the null hypothesis  $H_0$ , is true. In other words, it is the probability of wrongly rejecting the null hypothesis if it is in fact true. Additionally, Wilcoxon's Rank Sum Test is well known to one of ordinary skill in statistics. The Wilcoxon's Rank Sum Test was first proposed by Frank Wilcoxon in 1945 (Wilcoxon, F. (1945) "Individual Comparisons by Ranking Methods," *Biometrics* 1, 80-83). It has since been widely used as a nonparametric statistics to compare two independent samples of observations. Like other statistical comparison methods, the method Wilcoxon developed is to calculate the  $p$  value for evaluation. Therefore, methods for calculating  $p$  value for a Wilcoxon rank test had been known as early as 1945. Applicants also wish to point out that once a  $p$  value is calculated according to Wilcoxon, it was also well known to one of ordinary skill in the art that the

threshold value for the  $p$  value to call significance is dependent upon the tester's purpose and preferences. It was also well known that the significance levels are often set at  $p=0.05$  (significant) or  $p=0.01$  (very significant). Such basic statistic principles and methods are taught in numerous statistic textbooks such as those cited in the specification. Therefore, Applicants respectfully submit that an amendment to include the material incorporated by reference is not needed. Applicants respectfully request withdrawal of this rejection.

***Claim rejection under 35 U.S.C. § 101***

Claims 1-31 have been rejected as allegedly being directed to a non-statutory subject matter. The Examiner asserts that the claimed invention is not useful, concrete and tangible. Applicants respectfully disagree.

The Examiner alleges in the State Street case, that monetary transfers are useful, concrete, and tangible while in the ATT Corp case, a primary interexchange carrier is useful, concrete, and tangible. Applicants respectfully submit that the instant claims are directed to the comparison of two microarray spot intensities (Page 21, lines 13-22 and Abstract) which is useful, concrete, and tangible in the microarray industry. As stated in the specification, the comparison of probe intensities at each cDNA target location is an important part of microarray data analysis such as analysis of gene expression profile (page 21, lines 13-22 and abstract).

Microarray data analysis produces scientifically important results such as detecting the presence of RNA transcripts (Summary, page 6, lines 10-12). Microarrays have been used for many practical applications such as drug discovery and clinical diagnostics. Microarray data analysis could be useful in gene expression monitoring, genotyping and other polymorphism analysis, diagnostics, etc. (page 35, lines 11-12).

Therefore, because the rejected claims are directed to a process that produces useful, concrete and tangible results in the microarray and biotechnology field and thus are directed to a patentable subject matter, Applicants respectfully request that the rejection of claims under 35 U.S.C. § 101 be withdrawn.

**CONCLUSION**

For these reasons, Applicants believe all pending claims are now in condition for allowance. If the Examiner has any questions pertaining to this application or feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 731-5000.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account 01-0431.

Respectfully submitted,

Date: 07-12-2006

By Leticia R. Block  
Leticia R. Block - Reg. No. 50,167

Customer No.: 22886  
Legal Department  
Affymetrix, Inc.  
3420 Central Expressway  
Santa Clara, CA 95051  
Tel: 408/731-5000  
Fax: 408/731-5392